

EXHIBIT

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I, J. A. M. Boulet, having been duly sworn, state the following:

I have attached my CV to this statement.

I have read the reports and depositions of Larry Schentrup and Mark Roberts, M.D., and exhibits. I have reviewed the photographs of the inspection that were attachments to the report of Larry Schentrup. I have read the deposition and exhibits of Gracie Hunt Craun.

It is my opinion that bending of the charge tube weakened the tube at the point where the cracks ultimately appeared. Exposure to heat and cold while in transit and/or storage would result in expansion and contraction of the copper tubing and so would further weaken the point in the charge tube where it ultimately cracked.

I have examined the inspection photographs No. DSC0003, DSC0006, DSC0008, DSC0011, DSC0012 and DSC0017 that were attached to the report and deposition of Larry Schentrup, and which show the fiberboard panel that covered the compressor compartment. In some of the pictures, it appears that there was a buckle in the panel. Such buckling can occur when the panel is installed because the screws holes are slots that allow for some adjustment of the board's position. (Two of the slots are visible in DSC0017.) If some screws are tightened before all are partly installed, aligning the last screws can required buckling the panel. Note the lower slot in DSC0017, which does not have a screw in it. If the other screws are tightened first, inserting a screw in that remaining slot will buckle the panel and/or damage the slot. When the panel is wholly or partially removed it can be much more flexible than when all screws are tightened. Because of this increased flexibility, it is possible that at a time when the fiberboard panel was not fully secured, bending of the charge tube occurred as a result of contact with the panel.

Once the freezer was installed in the residence of Gracie Hunt Craun and plugged into an electrical source, it ran for an extensive period of time. During that time the freezer was operational and the charge tube was exposed to alternately increasing and decreasing pressures as the compressor

of said freezer cycled on and off. I base this conclusion on the statement in the deposition of Gracie Hunt Craun that the freezer was producing cold air after it was turned on in her residence (page 108 "that it seemed very cold ... and seemed everything was working great").

Over a period of several hours after the freezer was installed, Ms. Craun smelled something sweet but unrecognizable in her house. (See her deposition, pp. 115 - 127.) A sweet smell was also reported by Mr. Birdsong when he arrived in response to his mother's message early on the morning after the freezer had been installed. (See his deposition, pp. 23 - 26). These reports are consistent with the conclusion that the freezer was leaking coolant and oil.

My observation of the stain on the fiberboard panel indicates that the stain was caused by pressurized refrigerant and ester oil sprayed onto about one half of the panel while the compressor was operating under pressure.

According to the depositions, the only time that the system was under extensive pressure for more than a few seconds was when it was in operation inside the residence of Gracie Hunt Craun.

Therefore, it is my opinion that the oil and refrigerant sprayed on to the fiberboard panel and into the home when the charged tube was cracked under extensive pressure inside Mrs. Craun's residence .

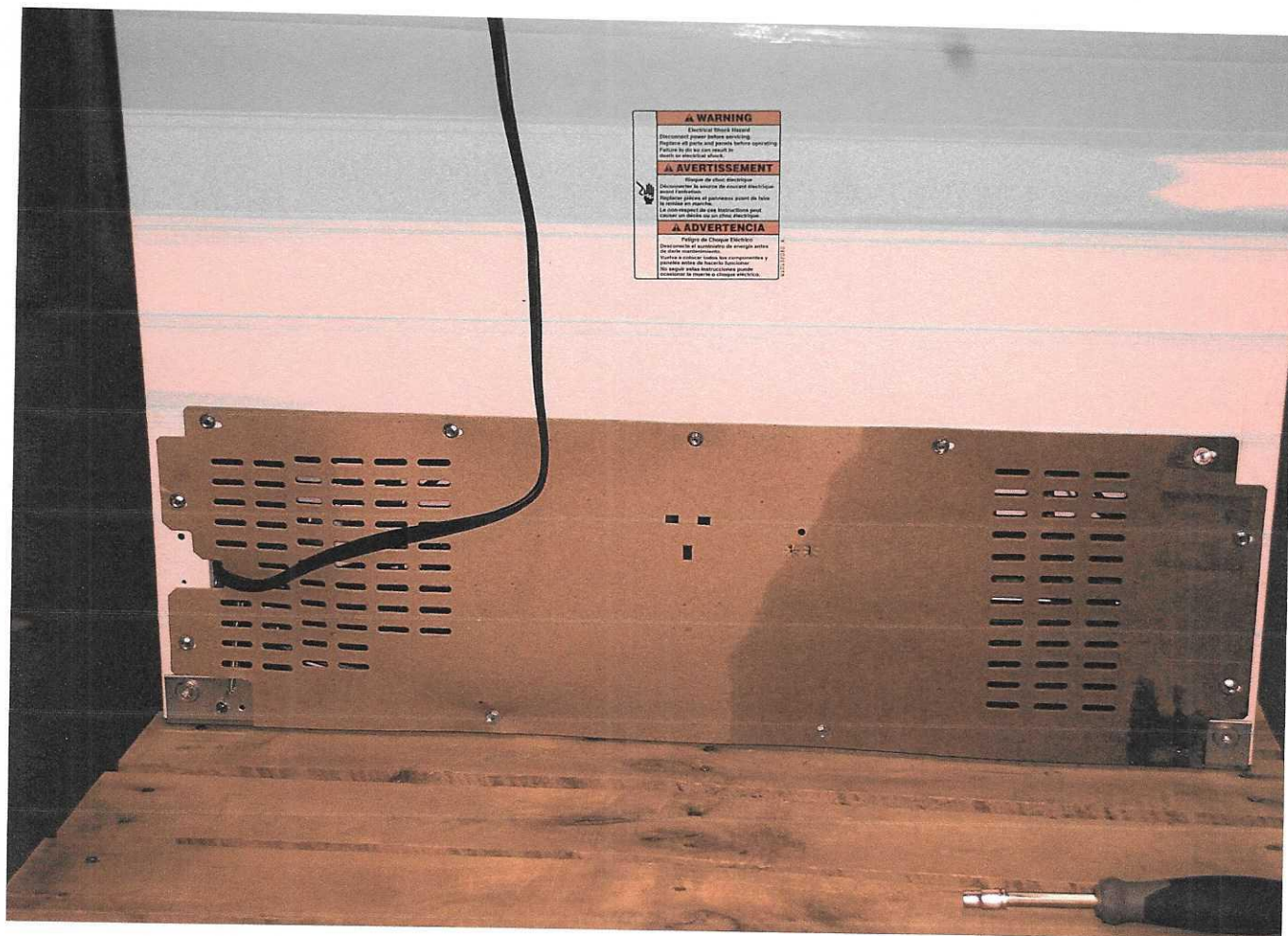


J. A. M. Boulet

August 2, 2017

Signed before me this 2nd day of August 2017
Jennell Pershing
Commission Expires 11/26/17

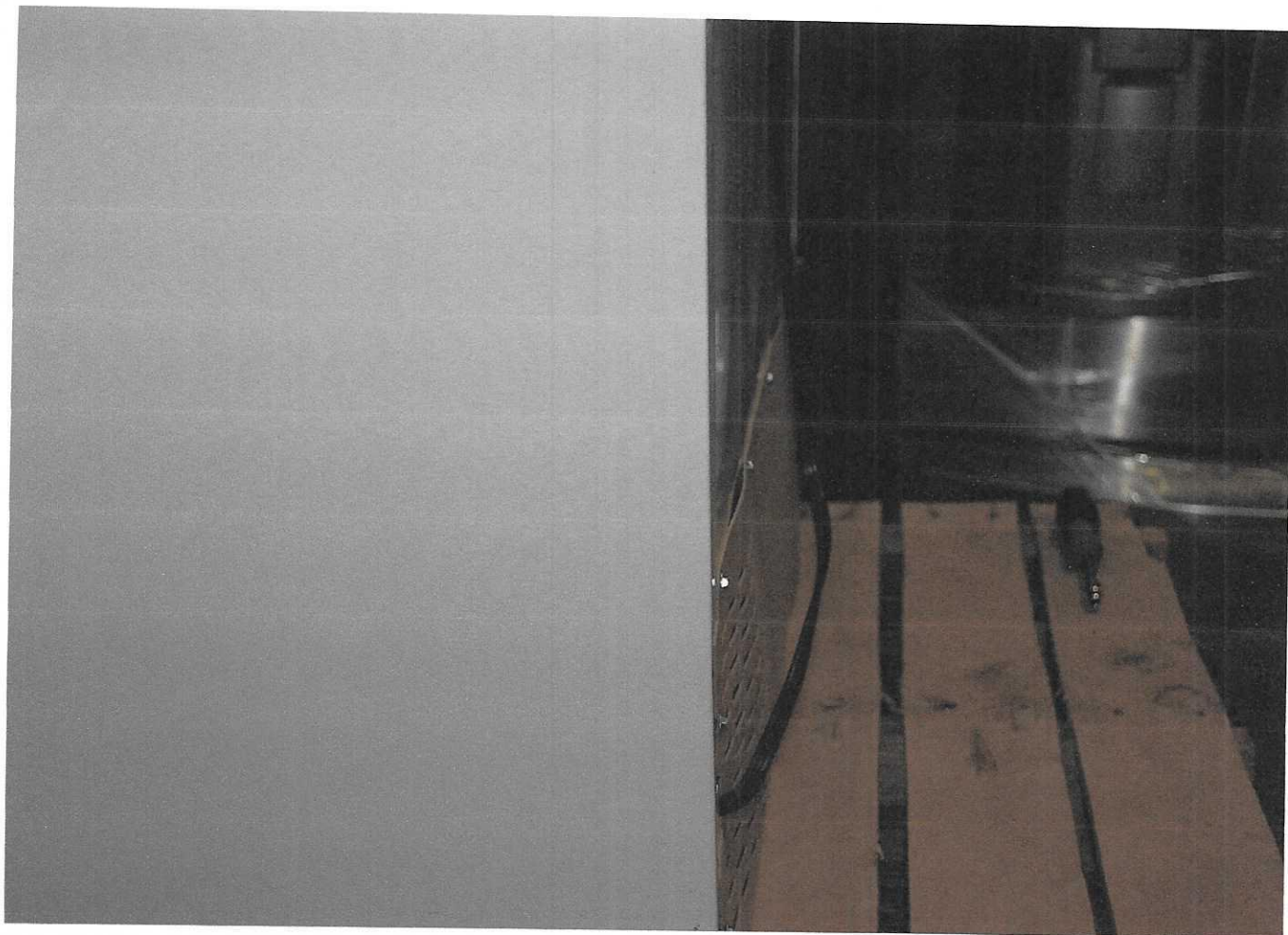




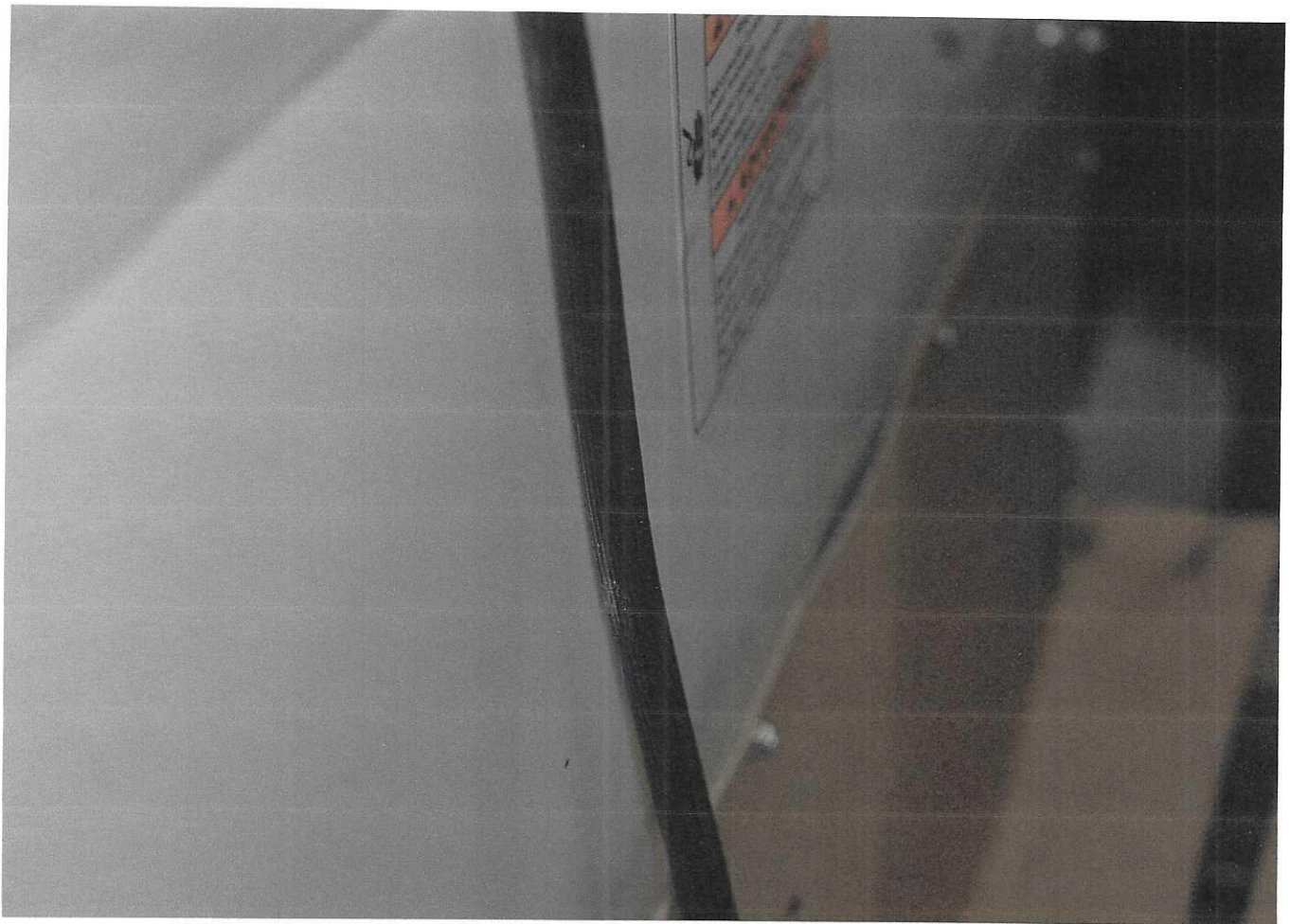
DSC0003



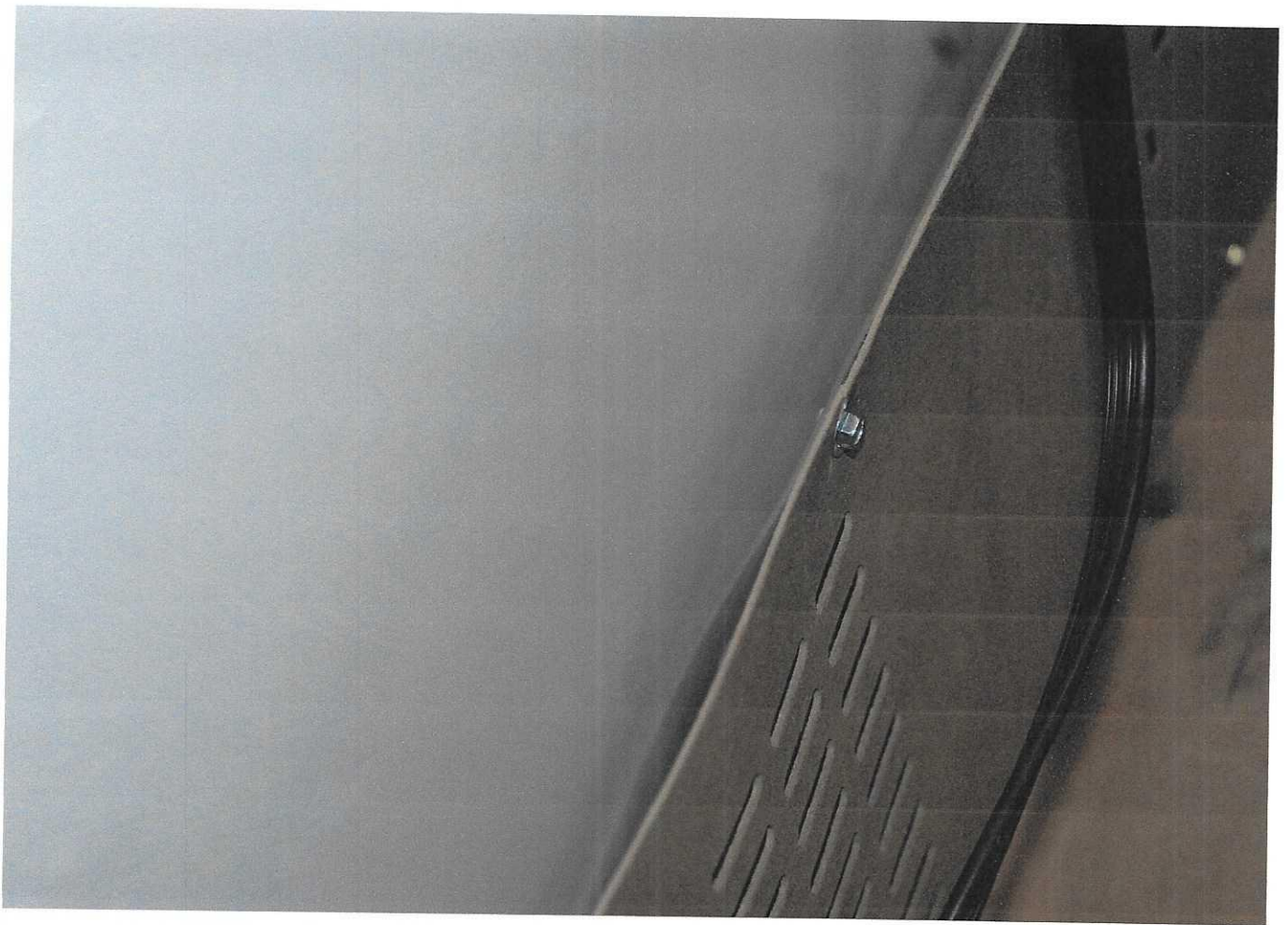
DSC0006



DSC0008



DSC0011



DSC0012



DSC0017

RESUME
February, 2017

J. A. M. BOULET

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AREAS OF RESEARCH

Structural dynamics and vibrations, fracture mechanics, oscillating fluid flow, fluid-structure interaction.

AREAS OF TEACHING

Dynamics, vibrations, structural mechanics.

EDUCATION

- Ph. D. Mechanical Engineering (Applied Mechanics), Stanford University, 1984.
- M. S. Engineering Science (Mechanics), University of Tennessee, Knoxville, 1976.
- B. S. Engineering Science (Mechanics), University of Tennessee, Knoxville, 1975.

PROFESSIONAL EXPERIENCE

- | | |
|----------------|---|
| | University of Tennessee, Knoxville, TN |
| 5/12 present | Associate Head, MABE Department |
| 7/95 - present | Associate Professor, Mechanical, Aerospace & Biomedical Engineering |
| 8/88 - 6/95 | Associate Professor, Engineering Science & Mechanics |
| 1/85 - 7/88 | Assistant Professor, Engineering Science & Mechanics |
| | NASA, Marshall Space Flight Center, Huntsville, AL |
| Summer 1998 | Summer Faculty Fellow |
| Summer 1997 | Summer Faculty Fellow |
| | Georgia Institute of Technology, Atlanta, GA |
| 7/84 - 12/84 | Assistant Professor, Mechanical Engineering |
| 1/81 - 6/84 | Instructor, Mechanical Engineering |
| | Lockheed-Georgia, Marietta, GA |
| Summer 1983 | College Faculty Associate |

Stanford University
10/79 - 12/80 Research Assistant, Applied Mechanics

Failure Analysis Associates, Palo Alto, CA
Summer 1979 Failure Analyst
Summer 1980 Failure Analyst

Oak Ridge National Laboratory, Oak Ridge, TN
Summer 1993 Consultant
9/76 - 9/77 Design Engineer
Summer 1975 Design Engineer
Summer 1974 Technical Assistant

University of Tennessee, Knoxville
9/76 - 9/77 Instructor (part-time), Engineering Science & Mechanics

CONSULTING ACTIVITY

1995 - 2001 High-Flux Isotope Reactor, ORNL, Oak Ridge, TN

SCIENTIFIC AND PROFESSIONAL SOCIETIES OF WHICH A MEMBER

Society of Petroleum Engineers
Society of Automotive Engineers
American Society of Mechanical Engineers
American Society for Engineering Education

ACADEMIC HONORS

MABE Outstanding Teaching Award, 2013
MABE Outstanding Teaching Award, 2008
MAES Department Shell Professor Award, 1996-1997.
Allen and Hoshall Outstanding Teaching Award, 1991-1992.
ESM Outstanding Teacher Award, 1990-1991.
ESM Faculty Development Award, 1987-88.
DuPont Young Faculty Award, 1981.
National Science Foundation Graduate Fellow, 1975-1976, 1977-1979.

INSTITUTIONAL AND PROFESSIONAL SERVICE

Chair, MABE Undergraduate Programs Committee, 2014-present
Member, MABE Graduate Programs Committee, 2016
Chair, UT System Task Force on Post-Tenure Review 2015-2016
Member, UT Compensation Advisory Board, 2011-2013
Member, UT Diversity Advisory Council, 2012
Member, UTK Top 25 Advisory Council, 2012
Member, Executive Committee of Tennessee University Faculty Senates, 2013
President, Tennessee University Faculty Senates, 2011-2012
Member, UTK Search Committee for Dean of Arts and Sciences, 2011
Member, UT Board of Trustees, 2010-2012

Member, UTK Faculty Senate's System Relations Committee, 2010-2012
Member, UT Faculty Council, 2009-2012
Director of Graduate Studies, MABE Department, 2008-2012
UTK Faculty Senator, 2010-2011
President of the UTK Faculty Senate, 2009-2010
Member, Executive Council of UTK Faculty Senate, 2006-2011
Chair, UTK Faculty Appeals Committee, Faculty Senate, 2006-2007
Academic Coordinator, Maintenance and Reliability Center, 2001-2006

PROFESSIONAL DEVELOPMENT ACTIVITIES

Participated in two-year program of assessing reliability practices in suppliers of BP, 2005 - 2007.

PUBLICATIONS

Papers in Refereed Journals

Raphael, J. J., and J. A. M. Boulet, "Modeling the failure of hoisting load chain", *Practical Failure Analysis*, **1**(2), 61-71, 2001.

Smithwick, R. W., III, and J. A. M. Boulet, "Electrically driven oscillations of a mercury-droplet electrode", *J. Colloid and Interface Science*, **150**, 567-574, 1992.

She, S., J. D. Landes, J. A. M. Boulet, and J. E. Stoneking, "Statistical Theory for Predicting the Failure of Brittle Materials," *Journal of Applied Mechanics*, **58**, 43-49, 1991.

Smithwick, R. W., III, and J. A. M. Boulet, "Vibrations of Microscopic Mercury Droplets on Glass," *J. Colloid and Interface Science*, **130**, 588-596, 1989.

Papers in Conference Proceedings

Wasserman, J., R. Bennett, J. A. M. Boulet, J. Iannelli, R. Jendrucko, and A. Lumsdaine, "The use of asynchronous web modules for review and just-in-time learning of mechanics," presented at ASEE 2003 Annual Conference.

Boulet, J. A. M., "Crack-Face Interaction: Protrusion Interference in Brittle Materials," presented at ASTM 24th National Symposium on Fracture Mechanics, Gatlinburg, TN, July, 1992.

Boulet, J. A. M., "Crack-Face Interaction in Brittle Materials: Two-Dimensional Analysis of Protrusion Interference," pp. II.5.9 - II.5.16 in *Developments in Theoretical and Applied Mechanics*, Vol. XVI, B. Antar, et al., ed., proceedings of Sixteenth Southeastern Conference on Theoretical and Applied Mechanics, University of Tennessee Space Institute, 1992.

Boulet, J. A. M., and R. W. Smithwick, III, "Natural Frequencies of a Bound Droplet with Small Gravitational Distortion: Inviscid, Axisymmetric Modes," in *Developments in Theoretical and Applied Mechanics*, Vol. XV, S. Hanagud, et al., ed., proceedings of Fifteenth Southeastern Con-

ference on Theoretical and Applied Mechanics, College of Engineering, Georgia Institute of Technology, 1990.

Boulet, J. A. M., et al., "A Two-Dimensional Simulation of a Human Body Falling Down a Stairway," pp. 1145-1149, *Proceedings of the Human Factors Society 33rd Annual Meeting*, Denver, CO, October, 1989.

Boulet, J. A. M., and R. W. Smithwick, III, "Axisymmetric Oscillation of a Microscopic, Bound Droplet with Small Gravitational Distortion," in *Developments in Theoretical and Applied Mechanics*, Vol. XIV, S. Y. Wang, et al., ed., proceedings of Fourteenth Southeastern Conference on Theoretical and Applied Mechanics, School of Engineering, University of Mississippi, 1988.

Berry, J. T., and J. A. M. Boulet, "The Application of Geometric Modeling to Metal Casting Technology," General Motors International Symposium on Solid Modeling by Computers, Detroit, MI, September, 1983 (Proceedings: M. S. Pickett and J. W. Boyse, ed., Plenum Press, 1984).

Berry, J. T., P. V. Desai, J. G. Hartley, J. A. M. Boulet, C. W. Meyers, and G. T. Colwell, "A Computer-Aided Design System for Castings," Eleventh NSF Grantees Conference on Production Research and Technology, Pittsburgh, PA, May, 1984.

Berry, J. T., P. V. Desai, J. G. Hartley, J. A. M. Boulet, and C. W. Meyers, "A Computer-Aided Design System for Castings," Tenth NSF Grantees Conference on Production Research and Technology, Detroit, MI, 1982.

Berry, J. T., and J. A. M. Boulet, "Geometric Modeling and Casting Solidification Simulation," U.S./Sweden CAD/CAM Workshop, Cornell University, Ithaca, NY, November, 1982 (Proceedings: K. K. Wang, ed., Society of Manufacturing Engineers, 1983).

Berry, J. T., P. V. Desai, J. G. Hartley, and J. A. M. Boulet, "A Computer-Aided Design System for Castings," Ninth NSF Grantees Conference on Production Research and Technology, Ann Arbor, MI, 1981.

Sanders, J. P., J. C. Conklin, K. W. Childs, and J. A. M. Boulet, "Thermal and Structural Analysis of the Pressure Boundary Flange for the Core Flow Test Loop," Nuclear Energy Agency Coordinating Group on Gas Cooled Fast Reactor Development Fourth Specialist Meeting on GCFT Heat Transfer, Karlsruhe, FRG, 1977.

Boulet, J. A. M., and T. G. Carley, "Response Spectrum Analysis of Coupled Structural Response to a Three Component Seismic Disturbance," Paper No. K 3/5, Fourth Annual Structural Mechanics in Reactor Technology Conference, San Francisco, CA, 1977.

Books Edited

Landes, J. D., D. E. McCabe, and J. A. M. Boulet, *Fracture Mechanics*, 24th Volume, STP 1207, ASTM, 1994.

Technical Reports

"Tools for Integrated Modeling of the Next Generation Space Telescope," Final Report, Summer Faculty Fellowship Program, NASA Marshall Space Flight Center, 1998.

"Structural Modeling of the Next Generation Space Telescope's Primary Mirror," Final Report, Summer Faculty Fellowship Program, NASA Marshall Space Flight Center, 1997.

"An Assessment of the State of the Art in Predicting Failure of Ceramics," ORNL/Sub/86-57598/1, Oak Ridge National Laboratory, Oak Ridge, Tennessee, 1988.

"An Analytical model of the Mammalian Cochlea," Progress Reports, Years One and Two, NSF Grant No. MSM-8502470.

"Flow Modeling of Leak Rates from Stress Corrosion Cracks in BWR Piping," with R. Kadlec, Electric Power Research Institute, Report No. RP1554-4, Palo Alto, CA, 1980.

Theses

"Coupled Structural Response to a Three-Component Seismic Disturbance," M.S. Thesis, University of Tennessee, August, 1976.

"The Role of the Inner Sulcus in Cochlear Mechanics," Ph.D. Dissertation, Stanford University, January, 1984.

Conference Presentations without Proceedings

Boulet, J. A. M., and J. Barney Holt, "Three-Dimensional Analysis of Fluid Flow Between the Tectorial Membrane and the Organ of Corti," with Fall Meeting of the Acoustic Society of America, Miami, FL, November, 1987.

Boulet, J. A. M., and Berry, J. T., "Geometric Modeling and Casting Simulation Techniques," American Society of Metals, Metals Congress, St. Louis, MO, October, 1982.

Boulet, J. A. M., Berry, J. T., Wilkes, J. and Pehlke, R. D., "Computer-Aided Design and Casting Solidification," WESTEC '83, Los Angeles, CA, March, 1983.

FUNDED RESEARCH GRANTS, PRINCIPAL INVESTIGATOR

"Development of an Interactive Web-Based Instructional Module on the Fundamentals of Mechanical Vibrations," UTK ITC and College of Engineering, \$7,000, January, 2002.

"Fracture of Brittle Ceramics: Accounting for Protrusion Interference in Design," Martin Marietta Energy Systems, \$241,000, January, 1989.

"The Influence of Crack Face Interaction on Brittle Fracture Initiation in Ceramics," Martin Marietta Energy Systems, Inc., \$90,992, August, 1987.

"Assessment of Current Understanding of Ceramic Failures," Martin Marietta Energy Systems, Inc., \$25,000, June, 1986.

"Improving an Analytical Model of the Cochlea," University of Tennessee, Knoxville Faculty Research Grant, \$5,000, January, 1986.

"Research Initiation: An Analytical Model of the Mammalian Cochlea," NSF, \$48,000, May, 1984.

"Three-Dimensional Graphics Station for Computer-Integrated Manufacturing Research," NSF Equipment Grant Request, \$77,000, May, 1984.

"Geometric Modeling with Rational B-Splines," Lockheed Georgia, \$20,000, January, 1984.

"Exxon Young Faculty Grant Request," School of Mechanical Engineering, Georgia Tech, \$7,200, September, 1982.

"Equipment Grant Request: Hardware for a CAD Work Station," Georgia Tech Research Institute, \$36,400, October, 1981.

"Linking a Geometric Modeler with an Automatic Mesh Generator," School of Mechanical Engineering, Georgia Tech, \$12,500, July, 1981.

FUNDED RESEARCH GRANTS, CONTRIBUTOR

"An Asynchronous Web Module to Transition from Textbook to Realistic Problems," UTK ITC, \$15,000, October, 2002. (P. I.: J. F. Wasserman).

"Combined Research-Curriculum Development on Maintenance and Reliability," NSF, Supplement of \$35,000, April, 2001. (P. I.: T. E. Shannon).

"The Forgiving Stair: Towards a Theory of Injury Reduction," NSF, \$170,768, August, 1984. (P.I.: J. A. Templer).

"A Computer-Aided Design System for Metal Castings," NSF, \$457,317, February 1983 - February, 1986. (P.I.: J. T. Berry)

"Test of Emerging CAD Technologies in the Metal Castings Industry," NSF, \$78,793, September, 1981 - February, 1983. (P.I.: J. T. Berry)

"A Computer-Aided Design System for Metal Castings," NSF, \$600,000, 1980-1982. (P.I.: J. T. Berry)